NOTE ON THE SPECIES OF THE GENUS *EUTROPIUS* (PISCES, SCHILBEIDAE) FROM THE QUANZA AND BENGO RIVERS (ANGOLA) WITH DESCRIPTION OF *EUTROPIUS ANGOLENSIS* SPEC. NOV.

by

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ABSTRACT. – In the Quanza river, three distinct species of the genus *Eutropius* are recognised : *Eutropius bocagii* Guimaraes, 1882 of which *Eutropius eclipsis* Fowler, 1920 is a synonym, *Eutropius ansorgii* Boulenger, 1910, both from the Lower Quanza, and a new species, *Eutropius angolensis* from the upper Quanza described in this note. From the Bengo river, only one species of *Eutropius, E. seraoi* Boulenger, 1910, is known. A key to determination of the species mentioned above is given.

RESUME. – Dans le Quanza nous distinguons trois espèces d'*Eutropius*: *Eutropius bocagii* Guimaraes, 1882 dont *Eutropius eclipsis* Fowler, 1920 est synonyme, *Eutropius ansorgii* Boulenger, 1910, deux espèces du bas-Quanza, et une nouvelle espèce, *Eutropius angolensis* du haut cours du fleuve. Cette nouvelle espèce est décrite dans cette note. Du Bengo, une seule espèce d'*Eutropius, E. seraoi* Boulenger, 1910, est connue. Une clé de détermination des différentes espèces est donnée.

Key-words: Angola, Pisces, Schilbeidae, Eutropius angolensis, taxonomy, new species.

In this note, some results on *Eutropius* species known from the Angolese coastal rivers Quanza and Bengo are presented and a new species is described.

List of material studied.

Eutropius angolensis

MRAC n° 78-6-P-899; Quimbango, moyenne riv. Cuanza, Angola; 11°01'S-17°26'E; coll. Leonel Passos, Mus. do Dundo; IX-1973. Holotype of *E. angolensis.*

Eutropius ansorgii

BHNH n° 1911.6.1: 100-101; Quanza river at Cunga, Angola; 9°12'S-13°47'E; coll. Angorge; syntypes of *E. angsorgii.*

1911.6.1: 106; Lucalla river at Lucalla, Angola; 9°16'S-15°15'E; coll. Ansorge; syntype of *E. seraoi.*

MRAC n° 82-37-P: 1-4; Catete, Cuanza floden, lake 14 km from Catete, connected to the Cuanza; 9°10'S-13°40'E; coll. L. Lundström; 15-XII-53; exchange N.R.M.S.

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Cybium, 1984, 8(2) : 3-18.

NMW n⁰ 46502; Quanza fluss bei Cunga, Angola; 9⁰12'S-13⁰47'E; coll. Ansorge; syntype of *E. ansorgii.*

NRMS n⁰ LLL/7149; Catete, Cuanza floden, lake 14 km from catete, connected to the Cuanza; 9⁰10'S-13⁰40'E; coll. L. Lundström; 15-XII-53.

Eutropius bocagii
USNM n⁰ 42342; Quanza river at Cunga, Angola; 9⁰12'S-13⁰47'E; coll. William Harvey Brown, U.S. Eclipse Expedition, 1889; holotype of *E. eclipsis.*

42341; same data as for n⁰ 42342; paratypes (4) of *E. eclipsis.*

Eutropius seraoi
BMNH n⁰ 1911.6.1: 102-105; Bengo river at Cabiri, Angola; 8⁰52'S-13⁰39'E; coll. Ansorge; 4 syntypes of *E. seraoi.*

1915.3.9: 12-17; Bengo river at Guifangondo, Angola; 8⁰44'S-13⁰27'E; coll. Ansorge.

NMW n⁰ 46524; Bengo river at Cabiri, Angola; 8⁰52'S-13⁰39'E; coll. Ansorge; 2 syntypes of *E. ansorgii.*

BMNH: British Museum (Natural History), London; MRAC: Musée royal d'Afrique centrale, Tervuren; NMW: Naturhistorisches Museum Wien; NRMS: Naturhistoriska Riksmuseet, Stockholm; USNM: United States national Museum, Washington.

Synonymy of *Eutropius bocagii* and *Eutropius eclipsis.*

Eutropius bocagiii Guimaraes 1882
J. Sc. Math. Lisb., XXXIV, p. 85-87, fig.
Type-locality: Dondo, Quanza river, Angola.

Eutropius eclipsis Fowler 1920
Proc. U.S. Nat. Mus., 56, p. 270-272, fig. 12
Type-locality: Cunga, Quanza river, Angola.

E. bocagii was described from the Quanza river based upon one specimen of 215 mm total length. This type specimen was kept in the collections of the Museu Bocage in Lisboa, Portugal. Mr. L. Saldanha, curator in the Museu Bocage, informed me that this type was destroyed in March 1978 in a fire in the zoological and geological departments of the National Museum of Natural History in Lisboa,together with thousands of other specimens and types representing most known zoological groups (see also Saldanha, 1978).

In the original description of *E. bocagii*, Guimares gave a precise and detailed description as well as a good illustration of the holotype (fig. 1a).

Based on this description and this figure, most important characters are :

10 branched pectoral fin rays; 10 branchiostegal rays; anal fin rays: the total number observed by Guimares was 53; in *Eutropius*-specimens the branched anal fin rays are in general preceded by three of four unbranched anal rays, so the number of branched anal fin rays in the type specimen was probably 49 or 50; the position of the posterior nostrils closer to each other than the anterior ones; the feebly

serrated inner side of the pectoral spine; the nasal barbel reaching to the anterior eyeborder; the rather low position of the eye, the eye-center being at the level of the mouth corner ; the lower jaw reaching beyond the upper jaw.

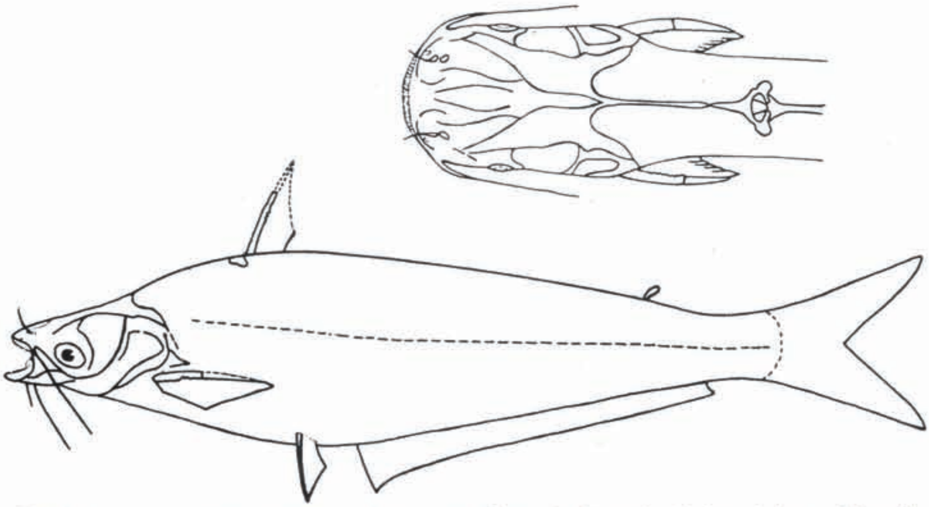

Fig. 1 a. – Original illustration of the holotype of *Eutropius bocagii* with lateral view and dorsal view of the head (after Guimaraes, 1882).

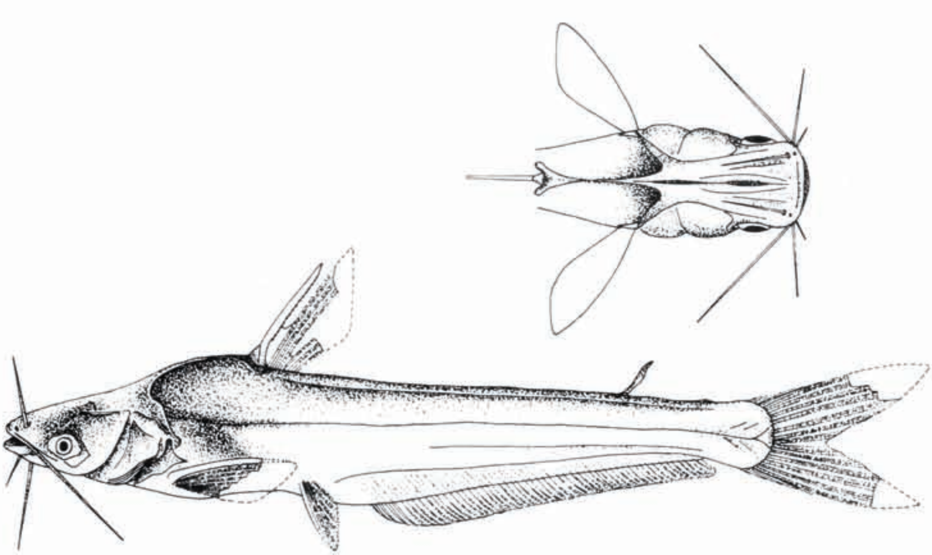

Fig. 1 b. – *Eutropius bocagii* : lateral view, and dorsal view of the head of the holotype of *Eutropius eclipsis*, U.S.N.M. n° 42342, Quanza river, Angola. SL 152 mm.

E. eclipsis was also described from the Lower Quanza river. I studied some morphological characters on the type series of this species (SL: 106-152 mm).

Body proportions: as indicated in table I.
Meristic counts : pectoral fin rays: 9-10; branchiostegal rays: 9-10; number of branched anal fin rays: 45-53 (see variation in table II); number of non-fused vertebrae : 43-45 (see also table III), number of gill-rakers on the lower part of the anterior arch: 11-14 (see also table III).
Other morphological observations : the posterior nostrils are closer to each other than the anterior ones; the inner side of the pectoral spine is feebly serrated; the upper jaw is shorter than or reaches as far as the lower jaw; the length of the barbels: as shown in fig 5A. How to observe the length of the barbels is shown elsewhere (De Vos, 1981); the position of the eye is rather low, the eye-center being at the level of the mouth corner ; color in alcohol : light brown above, lateral and ventral sides paler; silvery white tinge along the lateral line and above the anal fin. Base of caudal brown, anal with an inconspicuous median longitudinal streak, its entire length. A large dark blotch above the pectoral fin where the swimbladder comes close under the skin.

All morphological characters mentioned in the description of *E. bocagii* are conform to those observed in the type series of *E. eclipsis*. A slight difference can be observed in the length of the nasal barbels: at least reaching till the posterior eye-border in the type series of *E. eclipsis*, while only reaching till the anterior eye-border in the holotype of *E. bocagii*. This is probably due to negative allometry frequently observed in the barbel length of schilbeid fishes; maybe the nasal barbels in the holotype of *E. bocagii* were broken. Beacause of the essential morphological similarity of both nominal species studied, I consider *E. eclipsis* Fowler, 1920 as a junior synonym of *E. bocagii* Guimaraes, 1881.

Morphological characters of *Eutropius ansorgii* and *Eutropius seraoi*.

E. ansorgii was described from three specimens from the Quanza river. *E. seraoi* was described from nine specimens from the Bengo river and one specimen from the Lucalla (= Lucala) river, a branch of the Quanza.

Explanation of the abbreviations used in table I :

(1) Standard length. (2) Head length. (3) Mouth width. (4) Interocular width. (5) Interorbital width. (6) Distance between the anterior nostrils. (7) Distance between the posterior nostrils. (8) Distance between the anterior and the posterior nostrils on one side of the head. (9) Eye diameter, horizontal. (10) Eye diameter, vertical. (11) Snout length. (12) Distance between the inner mandibular barbels. (13) Distance between the outer mandibular barbels. (14) Body depth. (15) Caudal peduncle depth. (16) Caudal peduncle length. (17) Distance snout-dorsal fin. (18) Distance snout-ventral fin. (19) Base length dorsal fin. (20) Length dorsal spine. (21) Length pectoral spine. (22) Length ventral fin. (23) Length adipose fin. (24) Base length anal fin. (25) Distance between dorsal and adipose fin. (26) Distance between pectoral and ventral fin.

Measurements	type series Lucalla (Quanza) 1 syntype	*E. seraoi* Bengo 5 syntypes min.-max.	m̄	n	s	*E. seraoi* Bengo min.-max.	m̄	n	s	*E. angolensis* n. sp. Quanza Holotype
St. L. (1) in mm.	66	73 -178	-	5	-	93-128	-	6	-	90
H.L. (2) in % St.L.	20,2	18,4-20,8	19,7	5	1,0	19,1-20,2	19,5	6	0,4	21,2
Mth. Wth. (3) in % H.L.	53,7	52,0-69,5	60,3	5	6,5	52,9-58,2	55,5	6	1,8	50,3
Ioc. Wth.(4) in % H.L.	56,7	60,5-70,9	66,3	5	4,5	61,9-69,5	66,6	6	2,8	53,9
Iob. Wth.(5) in % H.L.	37,3	41,4-51,3	46,2	5	4,4	38,1-51,8	43,1	6	5,5	37,7
Dist. ant. nost.(6) in % H.L.	42,5	42,0-47,9	45,7	5	2,3	42,3-47,5	45,4	6	1,9	37,7
Dist. post. nost.(7) in % H.L.	38,8	39,3-42,9	41,3	5	1,5	40,2-42,1	41,2	5	0,8	34,6
Dist. ant.-post. nost.(8) in % H.L.	17,2	14,0-16,9	15,6	5	1,2	14,5-17,8	16,5	6	1,4	15,2
Eye diam. horiz.(9) in % H.L.	29,1	19,1-25,7	-	5	2,5	22,4-26,5	-	6	1,4	24,6
Eye diam. vert.(10) in % H.L.	27,6	16,8-22,4	-	5	2,3	19,6-24,7	-	6	1,9	22,0
Sn. L.(11) in % H.L.	32,1	31,3-33,3	32,4	5	0,9	30,5-34,2	32,7	6	1,7	35,1
Dist. out. mand. barb.(12) in % H.L.	24,6	28,3-33,9	31,7	5	2,2	24,7-32,3	29,8	6	2,8	28,8
Dist. inn. mand barb.(13) in % H.L.	13,4	17,1-19,9	17,9	5	1,2	16,2-18,2	16,9	6	0,8	14,7
Body Dth.(14) in % St.L.	17,9	18,9-23,7	20,8	5	2,0	20,3-23,1	21,2	6	1,0	18,8
Caud.ped.Dth. (15) in % St.L.	7,4	7,9- 8,9	8,4	5	0,4	8,2- 9,4	8,7	6	0,4	8,3
Caud.ped.L. (16) in % St.L.	9,2	9,2-10,5	10,1	5	0,5	8,4-10,3	9,5	6	0,8	9,3
Dist.sn.-dors.fin(17) in % St.L.	27,1	26,2-29,4	27,7	5	1,1	26,5-28,0	27,3	6	0,6	28,5
Dist.sn.-ventr.fin (18) in % St.L.	34,7	34,3-39,0	36,3	5	1,8	35,6-37,4	36,4	6	0,7	35,2
Base L.dors. fin (19) in % St.L.	6,0	5,9- 6,4	6,1	5	0,2	6,1- 6,5	6,2	6	0,1	6,8
L.dors.sp. (20) in % St.L.	13,3	11,9-12,3	12,1	5	0,2	11,3-12,1	11,7	6	0,3	15,4
L.pect.sp. (21) in % St.L.	15,5	15,3-16,0	15,7	5	0,3	14,3-15,4	14,9	6	0,5	16,7
L.ventr.fin (22) in % St.L.	10,9	11,2-12,3	12,0	5	0,4	10,8-12,8	11,8	6	0,7	11,6
L.adip.fin (23) in % St.L.	5,4	4,4- 5,9	5,2	5	0,5	4,4- 6,0	5,0	6	0,6	6,2
Base L. anal fin (24) in % St.L.	49,3	43,2-47,6	45,9	5	1,8	43,2-47,8	46,4	6	1,7	49,3
Dist.dors.-adip.fin(25) in % St.L.	52,9	50,9-53,3	52,3	5	1,0	50,7-54,5	52,3	6	1,3	51,9
Dist.pect.-ventr. fin (26) in % St.L.	16,0	15,9-21,9	18,1	5	2,4	17,7-18,9	18,4	6	0,5	15,0

Table I. – Body proportions in *Eutropius*-specimens from the Quanza and Bengo rivers, Angola. For explanation of the abbreviations used, see previous page

Measurements	type series *E. eclipsis* Quanza min.-max.	$\overline{m}$	n	s	type series *E. ansorgii* Quanza min.-max.	$\overline{m}$	n	s	*E. ansorgii* Quanza min.-max.	$\overline{m}$	n	s
St. L. (1) in mm.	106-152	-	5	-	214-221	-	3	-	84,0-111,6	-	18	-
H.L. (2) in % St.L.	20,6-22,3	21,2	5	0,7	20,8-21,7	21,3	3	0,5	20,7-22,3	21,4	18	0,5
Mth. Wth. (3) in % H.L.	49,8-54,7	51,4	5	2,2	60,0-67,0	62,6	3	3,8	56,6-61,0	58,7	17	1,5
Ioc. Wth.(4) in % H.L.	53,5-58,2	56,4	5	1,8	61,5-66,8	64,5	3	2,7	60,4-69,6	63,0	18	2,3
Iob. Wth.(5) in % H.L.	40,0-43,7	41,7	5	1,4	46,0-49,6	47,3	3	2,0	41,7-52,6	46,2	18	4,1
Dist. ant. nost.(6) in % H.L.	40,0-46,8	44,0	4	3,1	43,8-46,4	44,7	3	1,4	41,4-46,9	44,4	18	1,2
Dist. post. nost.(7) in % H.L.	37,8-42,1	40,2	4	1,8	38,7-42,0	40,0	3	1,8	33,0-42,9	39,6	18	2,3
Dist. ant.-post. nost.(8) in % H.L.	12,7-14,2	13,5	4	0,8	13,1-13,8	13,3	3	0,4	14,5-18,1	16,1	18	1,1
Eye diam. horiz.(9) in % H.L.	22,8-25,1	-	5	0,9	18,6-20,0	-	3	0,8	24,3-28,0	-	18	1,3
Eye diam. vert.(10) in % H.L.	18,5-22,8	-	5	1,8	16,1-17,7	-	3	0,8	20,7-25,6	-	18	1,5
Sn. L.(11) in % H.L.	28,7-35,8	31,7	5	2,6	28,7-33,6	31,9	3	2,7	30,2-35,2	32,7	18	1,6
Dist. out. mand. barb.(12) in % H.L.	24,4-28,9	27,3	5	1,8	31,7-32,1	31,9	3	0,2	29,3-36,2	32,9	18	1,9
Dist. inn. mand barb.(13) in % H.L.	13,9-17,4	15,6	5	1,3	16,0-18,0	16,8	3	1,1	15,3-20,3	18,1	18	1,4
Body Dth.(14) in % St.L.	16,1-18,2	17,1	5	1,0	23,1-27,1	24,6	3	2,2	19,8-25,0	23,0	18	1,3
Caud.ped.Dth. (15) in % St.L.	6,6- 7,3	7,0	5	0,3	8,3- 8,9	8,6	3	0,3	8,4- 9,8	9,0	18	0,4
Caud.ped.L. (16) in % St.L.	8,3- 9,2	8,7	5	0,4	7,8- 8,8	8,3	3	0,5	7,3- 9,3	8,5	18	0,5
Dist.sn.-dors.fin(17) in % St.L.	29,8-31,3	30,3	5	0,6	29,5-32,6	30,7	3	1,7	27,0-31,1	28,7	18	1,0
Dist.sn.-ventr.fin (18) in % St.L.	36,9-38,6	37,7	5	0,7	38,3-38,7	38,5	3	0,3	35,4-38,4	36,5	18	0,9
Base L.dors. fin (19) in % St.L.	6,6- 7,3	7,0	5	0,3	6,2- 6,9	6,5	3	0,4	6,3- 7,5	6,9	18	0,4
L.dors.sp. (20) in % St.L.	12,3-14,4	13,2	5	0,8	11,0-13,3	12,2	3	1,2	12,0-14,5	13,0	16	0,6
L.pect.sp. (21) in % St.L.	15,0-16,3	15,8	5	0,6	13,3-15,0	14,1	3	0,9	14,6-16,4	15,4	18	0,5
L.ventr.fin (22) in % St.L.	10,5-12,0	11,5	5	0,6	10,5-11,5	11,0	3	0,5	10,7-13,4	11,9	18	0,7
L.adip.fin (23) in % St.L.	4,4- 5,0	4,7	5	0,3	3,7- 4,2	3,9	3	0,3	5,1- 6,9	5,9	18	0,4
Base L. anal fin (24) in % St.L.	44,7-47,0	46,3	5	0,9	44,2-45,5	45,0	3	0,7	45,5-57,7	48,1	18	2,6
Dist.dors.-adip.fin(25) in % St.L.	48,3-53,9	51,0	5	2,3	51,5-53,7	52,7	3	1,1	51,5-55,3	53,1	18	0,9
Dist.pect.-ventr. fin (26) in % St.L.	17,4-19,7	18,5	5	1,0	18,3-19,7	18,8	3	0,8	16,1-19,4	17,6	18	1,0

Table I (continued)   For explanation of the abbreviations used, see previous page

Table II. – Number of branched anal fin rays in *Eutropius*-species from the Quanza -and Bengo rivers, Angola.

branched anal finrays :	43	44	45	46	47	48	49	50	51	52	53	n	m̄
1) Eutropius bocagii (Lower Quanza)													
- E. bocagii (holotype)							1 -	1				1	-
- E. eclipsis (typeseries)			1					2			2	5	50,2
2) Eutropius ansorgii (Lower Quanza)													
- typeseries								2		1		3	50,7
- Lucala							1	1				2	49,5
- Quanza			1	2	2	2	2	6	3			18	48,8
- total			1	2	2	2	3	9	3	1		23	49,1
3) Eutropius seraoi (Bengo)													
- typeseries	2		1	1	1			1				6	45,7
- Bengo	1	1	2	2								6	44,8
- total	3	1	3	3	1			1				12	45,3
4) Eutropius angolensis (Upper Quanza)													
- holotype										1		1	52,0

Table III. – Number of non-fused vertebrae (left) and number of gill-rakers on the lower part of the anterior arch (right) in *Eutropius*-species from the Quanza -and Bengo rivers, Angola.

	non-fused vertebrae									gill-rakers									
	41	42	43	44	45	46	47	n	m̄	10	11	12	13	14	15	16	17	n	m̄
1) Eutropius bocagii																			
- E. bocagii (holotype)																			
- E. eclipsis (typeseries)			1	3	1			5	44,0		1	1	1	2				5	12,8
2) Eutropius ansorgii																			
- typeseries		1	2					3	42,7		2	1						3	11,3
- Lucala					1			1	45,0	1		1						2	11,0
- Quanza	1	2	10	6				19	43,1		1	5	12					18	12,6
- total	1	3	12	6	1			23	43,2	1	3	7	12					23	12,3
3) Eutropius seraoi																			
- typeseries	1	4						5	41,8							1	5	6	16,8
- Bengo	3	3						6	41,5						3	2	1	6	15,7
- total	4	7						11	41,6						3	3	6	12	16,3
4) Eutropius angolensis																			
- holotype							1	1	47,0				1					1	13,0

The type series of both nominal species, as well as six other preserved specimens from the Bengo river (collections B.M.N.H.) and nineteen preserved specimens from the Quanza system (collections M.R.A.C. and N.R.M.S.) were examined.

Eutropius ansorgii Boulenger 1910
Ann. Mag. Nat. Hist., ser. 8, vol. VI, p. 555-556.
Type locality : Quanza river at Cunga, Angola.
Body proportions (Quanza-specimens) : as indicated in table I.
Meristic counts : number of pectoral fin rays : 9-10 ; number of branchiostegal

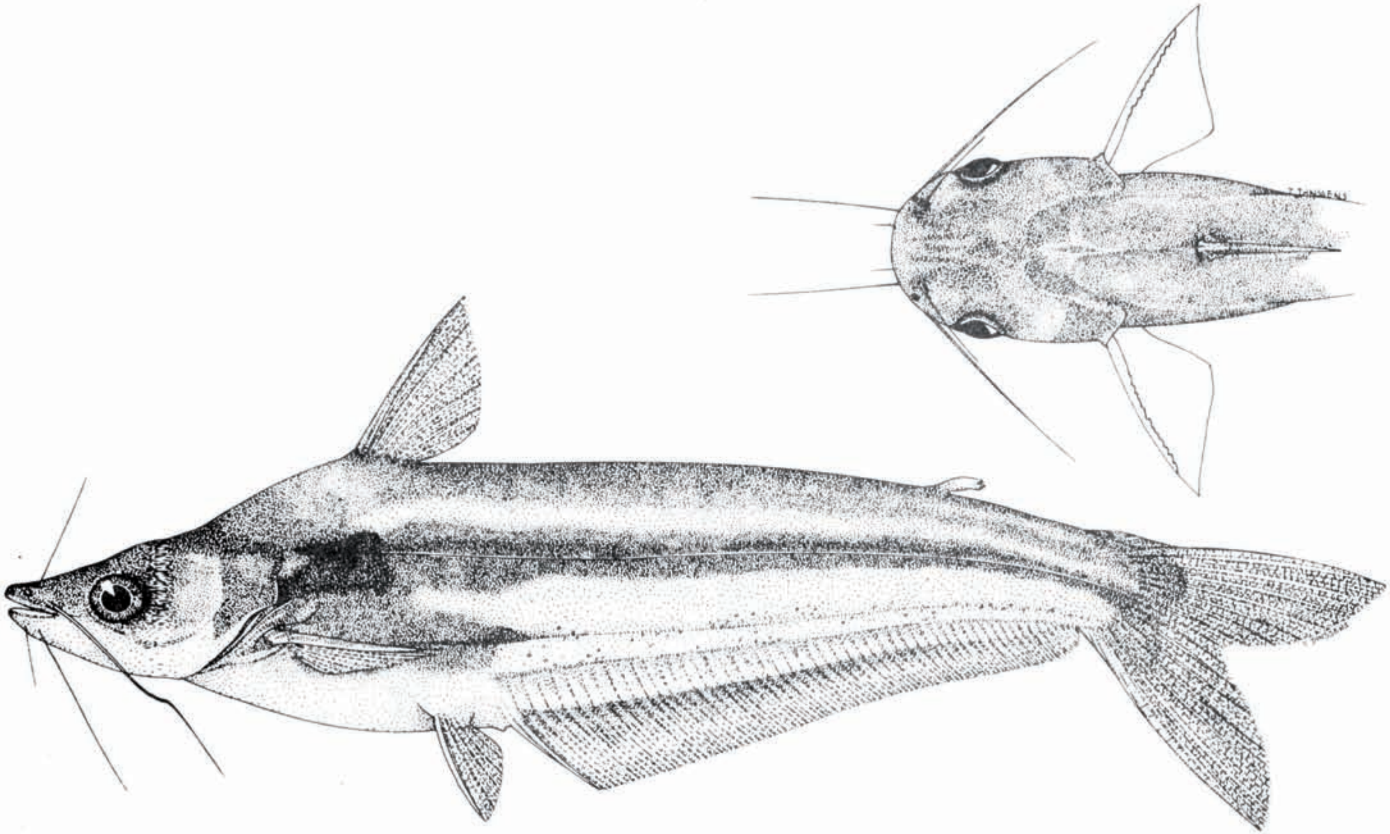

Fig. 2. – *Eutropius ansorgii* : lateral view, and dorsal view of the head; M.R.A.C. n° 82-37-P-1, Quanza river, Angola; SL 102 mm.

rays : 9; number of branched anal fin rays : 45-52 (see variation in table III); number of gill-rakers on the lower part of the first arch : 10-13 (see variation in table III).
Other morphological observations : the lower jaw is shorter than or as long as the upper jaw; the length of the barbels is shown in fig. 5 b; the eye-center is situated above the level of the mouth corner.
Color in alcohol : back and head brownish, sides and belly silvery white. A dark lateral streak along the lateral line. A stripe starting below the pectoral blotch down towards the anal fin, inconspicuous continuing above the anal fin and ending at the base of the caudal. A brownish band formed of minute dusky dots at the base and one at the edge of the anal fin. Base of caudal, pectoral, ventral and adipose fins faintly speckled.

Eutropius seraoi Boulenger 1910
Ann. Mag. Nat. Hist., ser. 8, vol. VI. p. 556-557.
Type localities : Bengo river at Guifangondo and Lucalla river at Lucalla, Angola.
Body proportions (Bengo-specimens) : as indicated in table I.
Meristic counts : number of pectoral fin rays : 9-10 ; number of branchiostegal rays : 9-10 ; number of branched anal fin rays : 43-50 (see variation in table II.) ; number of non-fused vertebrae : 41-42 (see also table III) ; number of gill rakers on the lower part of the first arch : 15-17 (see also table III).
Other morphological observations and coloration : similar to those mentioned for *E. ansorgii*. The variation of the length of the different barbels is shown in fig. 5c.

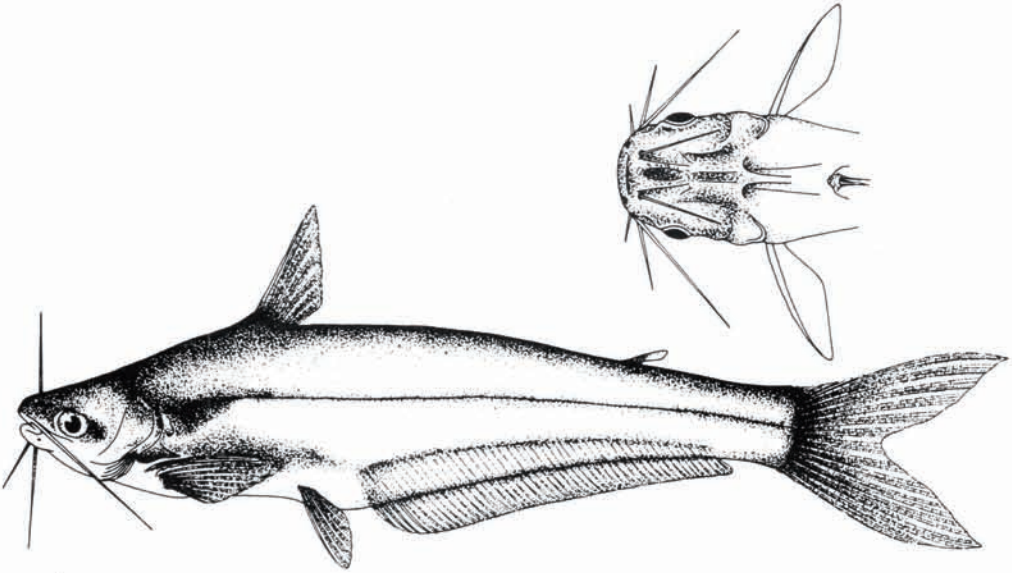

Fig. 3. – ***Eutropius seraoi*** : lateral view, and dorsal view of the head; N.M.W. n° 46524:1 (syntype of *E. seraoi*), Bengo river, Angola; SL 173 mm.

Boulenger (1910 and 1916) distinguished *E. ansorgii* from *E. seraoi* principally by the longer barbels and the lower number of anal fin rays in the latter species. The number of anal fin rays in specimens from the Bengo river (43-50) is in fact very slightly lower than the number observed in specimens from the Quanza (45-52). The difference in barbel length is rather clear (see fig. 5 b and 5 c), but the most obvious difference between Bengo - and Quanza specimens is the number of gill-rakers on the lower part of the first arch : Boulenger (1910 and 1916) counted 9-12 gill-rakers in the types of *E. ansorgii*. However I found 11-13 gill-rakers in specimens from the Quanza (type specimens included). In *E. seraoi* Boulenger counted 15-18 gill-rakers rather long and closely set. I found 15-17 long gill-rakers in specimens from the Bengo-river (Bengo-types included).

One of the syntypes of *E. seraoi* (BMNH nº 1911.1.1: 106) taken from the Lucala river (Quanza system) is conspecific with *E. ansorgii* : in his original description Boulenger (1910) obviously overlooked the low number of gill-rakers in this type (12), as he gives 15-18 as variation in *E. seraoi.*

The same statement can be done for another specimen from the Lucala, indicated as a paratype of *E. seraoi* by Fowler (1915 and 1930) and kept in the collections of the Academy of Natural Sciences, Philadelphia (nº 37956).

Fowler counted only 10 gill-rakers on the lower part of the anterior arch in this specimen. So I conclude that *E. seraoi* (with a high number of gill-rakers) is actually only known from the Bengo river, while *E. ansorgii* (with a low number of gill-rakers) is actually only known from the Lower Quanza system.

In the other characters Quanza and Bengo specimens are very similar : general shape, body proportions and color pattern of both groups are nearly identical.

In schilbeid fishes, geographical variations in some meristic counts (e.g. number of anal fin rays, number of vertebrae, number of gill-rakers) are often observed. This has been pointed out for *E. mandibularis* (= *E. mentalis*) by Levêque & Herbinet (1982) and De Vos & Levêque (in press), and for *Schilbe mystus* by Mok (1975), while similar statements can be done for some other species, e.g. *E. yangambianus* and *E. depressirostris* (research going on).

In *E. seraoi* and *E. ansorgii* however, the difference in the number of gill-rakers is very striking and there is no overlap in the numbers observed.

Because of this difference, I actually prefer to consider both groups as two distinct species, in accordance with Boulenger (1910 and 1916).

It is not excluded however that more material from the Quanza ichthyofaunal region would reveal more information on the morphological characters and the systematic relationship of both species considered.

E. ansorgii and *E. seraoi* are easily distinguished from *E. bocagii* by the position of the lower jaw and the position of the eye (see infra, in key). Other important characters of those species are :

- the posterior nostrils closer to each other than the anterior ones.
- the inner side of the pectoral spine feebly serrated.

– the head rather broad and rounded.

It seems clear that both species are closely related to *E. multitaeniatus* from gabonese-cameronese forest region (see De Vos, in press) and to *E. mandibularis* from the eburneo-ghanean forest region (see De Vos & Levêque, in press).

Besides obvious meristic differences, Angolese species are distinguished from those species by the color pattern, especially the broad dark lateral band along the lateral line.

Description of *Eutropius angolensis* spec nov.

A specimen of *Eutropius* from the Quanza river seems different from all known species, and therefore is described hereafter as a new species.

Eutropius angolensis spec. nov.

Diagnosis

The most striking characters of *E. angolensis* are :
the rounded narrow head ; the rather long pectoral and dorsal spines ; the small body depth ; the snout projecting beyond the border of the mouth ; the length of the nasal barbels, reaching to the anterior border of the operculum ; the feebly serrated inner side of the pectoral spine ; the position of the posterior nostrils closer to each other than the anterior ones ; the number of non-fused vertebrae : 47.

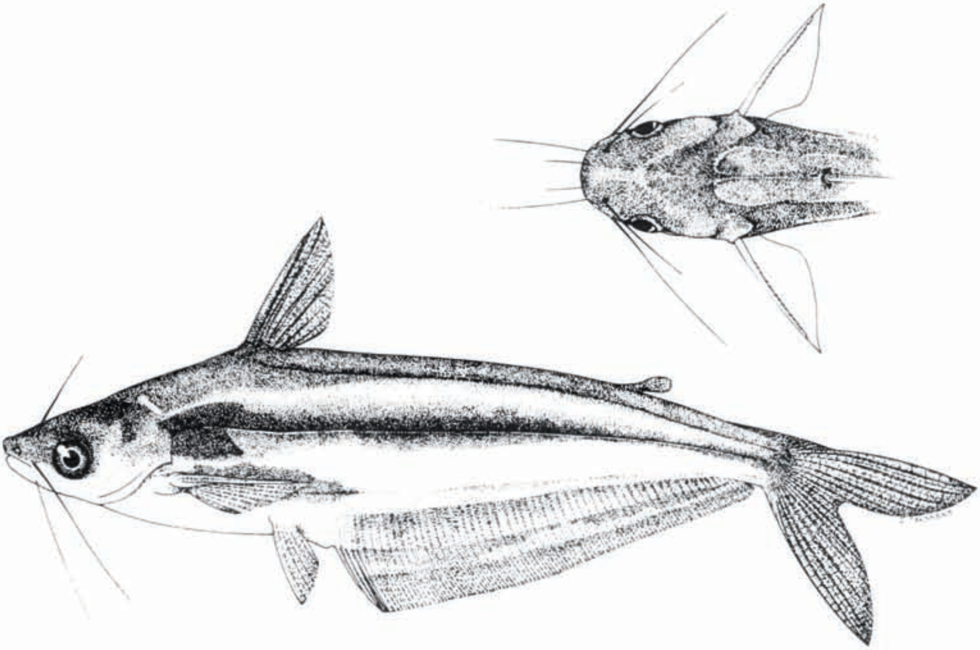

Fig. 4. – *Eutropius angolensis* : lateral view, and dorsal view of the head; M.R.A.C. n° 78-6-P-899 (holotype of *E. angolensis*), Quanza river, Angola; SL 90 mm.

Type material

Holotype, 1 ♂, 90 mm SL (fig. 4), collected on IX-1973 in the Quanza river at Quimbango, Angola ; type-locality : 10°51'S-17°30'E (fig. 5) ; collector : Leonel Passos (Museum do Dundo, Angola) ; MRAC nº 78-6-P-899. No other material available.

Description

The most striking characters are mentioned in the diagnosis. The body proportions are indicated in table I.

Meristic counts (*) : number of pectoral fin rays : 9; number of branchiostegal rays: 9; number of branched anal fin rays : 52 (see also table II) ; number of non-fused vertebrae : 47 (see also table III); number of gill-rakers on the lower part of the anterior arch : 13 (see also table III).

Other morphological observations : the length of the barbels is shown in fig. 5 d; the posterior side of the dorsal spine is very feebly serrated; the teeth are very small, the vomerine and palatine bands, narrow and as wide as the premaxillary one, are distinct from each other but contiguous; coloration : similar to the colour pattern as described for *E. ansorgii* (supra).

Comments

E. angolensis can easily be distinguished from *E. bocagiii* by the snout projecting beyond the lower jaw. Distinguished from *E. ansorgii* and *E. seraoi* (as well as from *E. bocagii*) by the narrow rounded head (see measurements 3-6 and 12-13 in table I), by the small body depth (see measurement 14 in table I), by the long pectoral and dorsal spines (see measurements 20-21 in table I) and by the high number of vertebrae (see table III).

E. angolensis is only known from the type locality in the Upper Quanza while *E. bocagii* and *E. ansorgii* are known from the Lower Quanza in the Angolese coastal zone, below a series of cataracts situated above Dondo. The *Eutropius*-specimens from the Upper and Lower Quanza are probably strictly isolated from each other by the numerous cataracts in the Angolese coastal plateau, the first important cataracts being situated about20 miles above Dondo (see fig. 6).

As already mentioned by Poll (1967), the Angolese zone of coastal river basins (except the Cunene river) seems very particular with a high rate of endemic fish-species. This can be affirmed for the *Eutropius*- species studied.

None of the species mentioned above seems to occur outside of this zone, while it must be remarked that from ichthyological viewpoint, only very few is actually known from this region.

(*) In Table II on p. 182 in the description of *E. djeremi* (Thys Van Den Audenaerde & De Vos, 1982), the numbers of soft ventral fin rays and of gill-rakers on the lower part of the anterior arch are by error inverted.

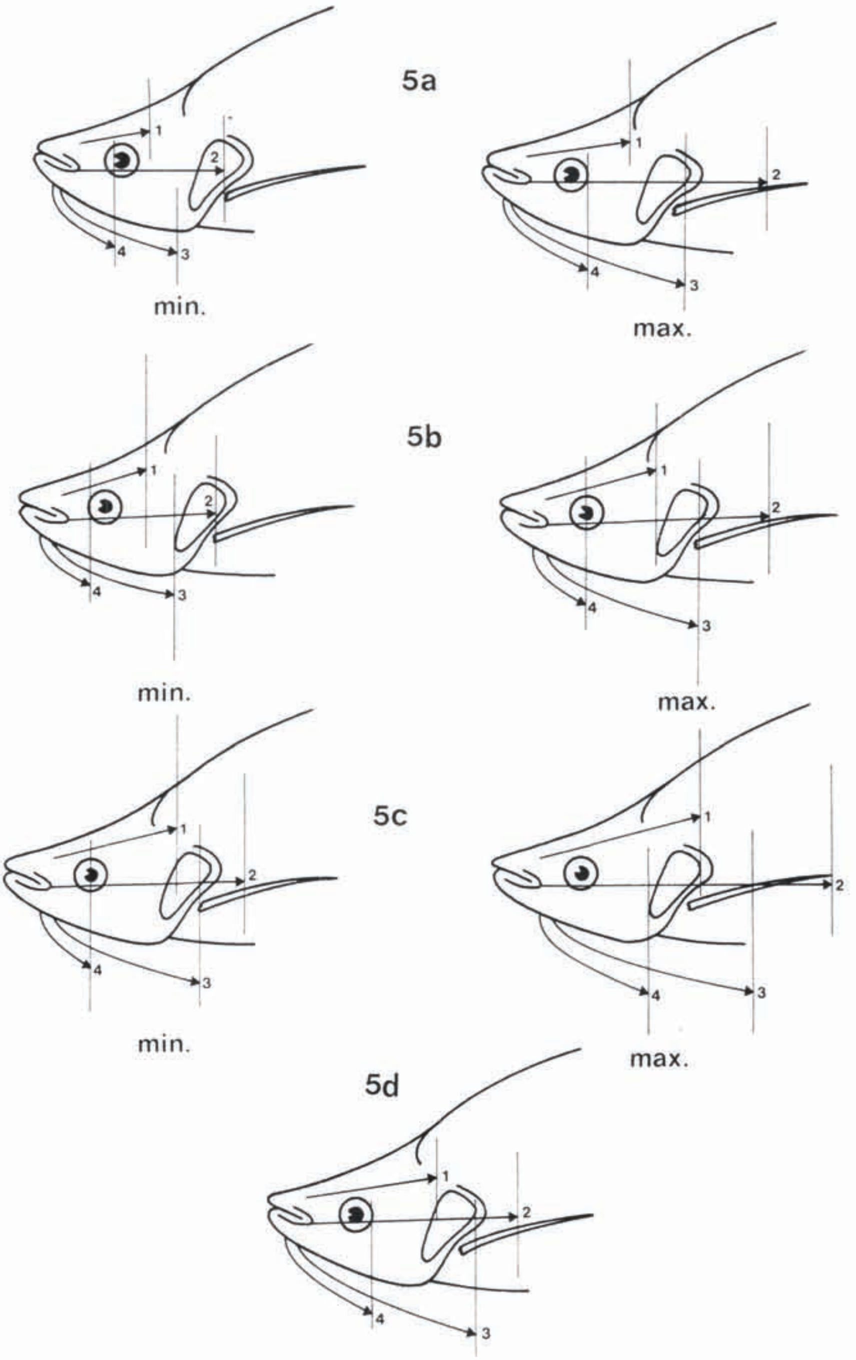

Fig. 5. – Variation of the barbel length in *Eutropius bocagii* (type series of *E. eclipsis*) (5 a), *Eutropius ansorgii* (5 b), *Eutropius seraoi* (5 c) and *Eutropius angolensis* (5 d, holotype). (1) : nasal barbel. (2) : maxillary barbel. (3) : external mandibular barbel. (4) : internal mandibular barbel.

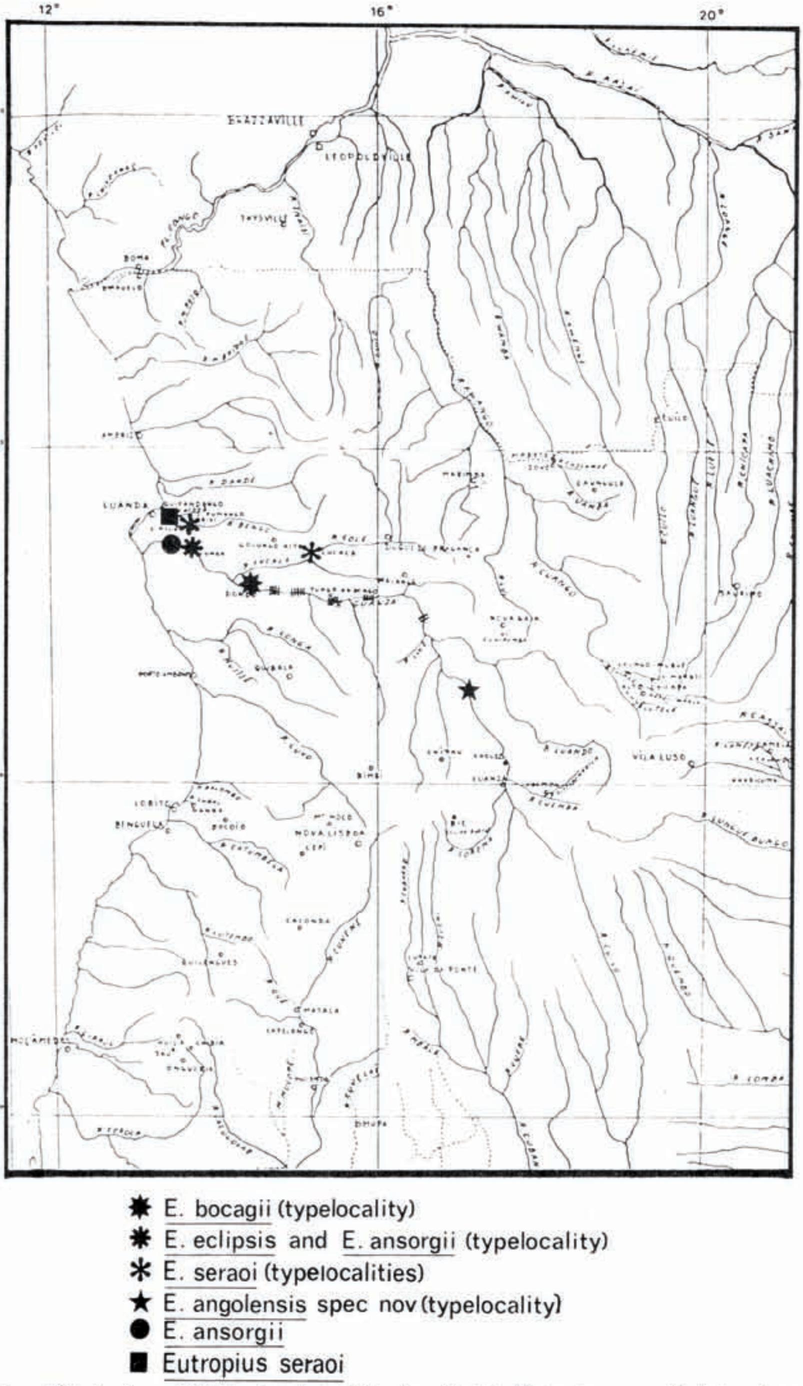

Fig. 6. – Distribution of *Eutropius bocagii* (= *E. eclipsis*), *Eutropius ansorgii*, *Eutropius seraoi* and *Eutropius angolensis* in Angola, based upon preserved specimens studied. The Lucala-type of *E. seraoi* belongs in fact to the species *E. ansorgii*. The major rapids in the Quanza river are approximatively indicated by small bars.

KEY TO DETERMINATION OF *EUTROPIUS*-SPECIES FROM THE QUANZA AND BENGO RIVERS :

1a. Lower jaw as long as or reaching beyond the upper jaw.
Eye position low, the eye-center being at the level at the mouth corner ...... *E. bocagii* (fig. 1a - b).

1b. Lower jaw shorter than or as long as the upper jaw.
Eye-center above level of mouth corner .... 2.

2a. Head broad and rounded .... 3.

2b. Head narrow and rounded :
Mouth width 50,3 in % of H.L. Interocular width 53,9 in % of H.L.
Distance between the anterior nostrils 37,7 in % of H.L.
Length of pectoral spine 16,7 in % of St. L.
Length of dorsal spine 15,4 in % of St. l.
13 gill-rakers on the lower part of the anterior arch.
47 non-fused vertebrae .... *E. angolensis* sp. nov. (fig. 4).

3a. Mouth width 53,7-67,0 in % of H.L. Interocular width 56,7-69,6 in % of H.L.
Distance between the anterior nostrils 42,5-46,9 in % of H.L.
Length of pectoral spine 13,3-16,4 in % of S.L.
Length of dorsal spine 11,0-14,5 in % of S.L.
10-13 gill-rakers on the lower part of the anterior arch.
41-45 non-fused vertebrae .... *E. ansorgii* (fig. 2).

3b. Mouth width 52,0-69,5 in % of H.L. Interocular width 60,5-70,9 in % of H.L.
Distance between the anterior nostrils 42,0-47,9 in % of H.L.
Length of pectoral spine 14,3-16,0 in % of S.L.
Length of dorsal spine 11,3-12,3 in % of S.L.
15-17 gill-rakers on the lower part of the anterior arch.
41-42 non-fused vertebrae .... *E. seraoi* (fig. 3).

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